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THE CLASSICAL ASSOCIATION OF THE ATLANTIC STATES

TWENTY-THIRD ANNUAL MEETING

The Twenty-third Annual Meeting of The Classical Association of the Atlantic States was held at the Baltimore City College, Baltimore, Maryland, on Friday and Saturday, May 3–4, 1929. The Association was fortunate in having the cooperation of The Washington Classical Club and The Baltimore Classical Club. Arrangements for the meeting had been made with great care and skill by the Local Committee of Arrangements, composed as follows: Dr. P. H. Edwards and Professor James P. Templeman, Baltimore City College; Professor Herman L. Ebeling, Goucher College; Miss Margaret T. Englar and Miss Mary B. Rockwood, Western High School, Baltimore; Miss Mabel C. Hawes, Central High School, Washington, and Mrs. Mable G. Murphy, Western High School, Washington, D. C.

The programme was as follows:

Words of Welcome, Dr. Frank R. Blake, Principal of the Baltimore City College; Response, Professor Ernst Riess, Hunter College, New York City, President of The Classical Association of the Atlantic States; Roman Altars (Illustrated), Professor George D. Hadzsits, University of Pennsylvania, Philadelphia; Senatorial Careers, Mr. A. G. C. Maitland, Washington Square College, New York University, New York City; The Greek House as Excavated at Olynthus (Illustrated), Professor David M. Robinson, The Johns Hopkins University, Baltimore; Recent Tendencies in the Study of Ancient Religion, Professor Ernst Riess, Hunter College, New York City; Two Types of Procedure in Teaching Beginning Latin, Miss Margaret T. Englar, Supervisor of Latin, Board of Education, Baltimore; Open Windows in Caesar, Mrs. Ada H. Coe, McKinley Technical High School, Washington, D. C.; Beginning Latin for Adults, Mr. Ernest L. Hettich, Washington Square College, New York University, New York City; The Latin Teacher of To-Morrow, Professor George M. Falion, The College of the City of New York; Latin Teachers and Latin Teaching, Mr. Harold G. Thompson, Supervisor of Ancient Languages, State Education Department, Albany, New York; Pietas Versus Violentia in the Aeneid, Professor E. Adelaide Hahn, Hunter College, New York City; Schiller and Vergil, Mr. Elmer S. Gerhard, Northeast High School, Philadelphia; Latin Accent and Latin Verse, Professor Roland G. Kent, University of Pennsylvania, Philadelphia; The Linguistic Institute, Professor Roland G. Kent, University of Pennsylvania, Philadelphia; Progress Made in Preparation for the Vergilian Celebration, Miss Anna P. MacVay, Wadleigh High School, New York City.

The meeting was highly successful. The attendance was good, particularly on Friday afternoon and on Saturday morning. Forty-two were present at the dinner on Friday night, and sixty at the luncheon on Saturday. The papers were interesting and were well delivered. Several of them, particularly the pedagogical papers read at the Saturday morning session, called forth considerable discussion.

The substance of the report of the Secretary-Treasurer was as follows:

On May 11, 1928, the balance to the credit of The Classical Association of the Atlantic States, current check account, was $651.93. There was received, during the year, the sum of $2459.06. The total in this fund was thus $3110.99. The expenditures of all sorts were $2540.34. The balance subject to check, on April 26, 1929, was $570.65.

On May 11, 1928, the balance to the credit of THE CLASSICAL WEEKLY, current check account, was $1021.81. The receipts, during the year, were $6938.41. The total in the fund was thus $7960.22. The expenditures of all sorts were $6878.46. The balance subject to check, on April 26, 1929, was $1081.76.

To The Classical Journal 530 subscriptions for Volume 24 were transmitted. 121 subscriptions for Volume 24 were sent to Classical Philology.

The total of the funds in the hands of the Secretary-Treasurer on April 26, 1929, was as follows: The Classical Association Account, $570.65; THE CLASSICAL WEEKLY Account, $1081.76; The Classical Journal Account, advance subscriptions, $62.50; Classical Philology Account, advance subscriptions, $37.38; Endowment Fund, The Classical Association of the Atlantic States, $1482.49; Emergency Fund, The Classical Weekly, $1411.22. Total, $4646.00.

The Secretary-Treasurer stated that all these amounts appear in the bank accounts in the name of The Classical Association of the Atlantic States.

The Secretary-Treasurer also gave the following figures showing the totals of membership and subscriptions reported at the meetings of 1920–1929 inclusive:

	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929
Members	655	735	792	785	843	890	943	1071	1073	1133
Subscribers	573	741	793	754	821	836	898	1025	1082	1202
Totals	1228	1476	1585	1539	1664	1726	1841	2096	2155	2335
C. J.	155	218	259	284	340	382	392	450	493	530
C. P.	64	71	80	75	100	97	92	103	131	121

The Report of the Secretary-Treasurer, which had been audited by Professors Hahn and Kraemer and found correct, and had been studied and approved by the Executive Committee, was approved and adopted by the Association.

The Secretary-Treasurer reported certain acts of the Executive Committee: (1) the reelection of Professor Charles Knapp as Delegate from the Association to the Council of the American Classical League; (2) the decision that in the Bimillenium Vergilianum, sponsored by the American Classical League, the Association should take part in two ways, first by having

on its programme at the spring meeting, 1930, two or three papers, by scholars, on Vergil, secondly, by accepting Professor Knapp's offer to dedicate primarily to The Classical Association of the Atlantic States, and secondarily to the American Classical League, his forthcoming volume on Vergil, which is to include an Index to his revised editions of Vergil and Ovid, even fuller than the Index to his original edition of Vergil, and a Vergilian Bibliography.

These actions of the Executive Committee were approved by the Association.

The Committee on Resolutions, through its Chairman, Professor Hahn, presented a very elaborate report, in Latin, giving the hearty thanks of the Association to all those who had in any way contributed to the success of the meeting—the retiring officers, the members of the Local Committee of Arrangements, the authorities of the Baltimore City College, the officers of The Baltimore Classical Club and of The Washington Classical Club, those who had presented papers, and those who had discussed the papers.

The following officers were elected for 1929–1930: President, Miss Mary L. Breene, Peabody High School, Pittsburgh, Pennsylvania; Secretary-Treasurer, Professor Charles Knapp, Barnard College, Columbia University, New York City; Vice-Presidents, Miss Elsie I. Barrows, Syracuse, New York, Professor Casper J. Kraemer, Jr., Washington Square College, New York University, New York City, Mr. Harvey M. Dann, Barringer High School, Newark, New Jersey, Professor Horace W. Wright, Lehigh University, Bethlehem, Pennsylvania, Professor William D. Crockett, Pennsylvania State College, State College, Pennsylvania, Miss Mildred Gooding, High School, Wilmington, Delaware, Professor Herman L. Ebeling, Goucher College, Baltimore, Maryland, Professor Charles S. Smith, The George Washington University, Washington, D. C.

CHARLES KNAPP

CLOUDS, RAINBOWS, WEATHER GALLS, COMETS, AND EARTHQUAKES AS WEATHER PROPHETS IN GREEK AND LATIN WRITERS

In previous articles in THE CLASSICAL WEEKLY I have collected weather signs derived from the stars and the constellations and also from the sun and the moon[1]. In this paper I am continuing my study of the weather lore of the heavens by gathering together the signs revealed by clouds, rainbows, weather galls, comets, and earthquakes. Some prophecies based upon the clouds in certain relations to the sun and the moon have already been noted[2].

The translations that I quote from the Phaenomena of Aratus are by G. R. Mair; those from the De Signis of Theophrastus are by Sir Arthur Hort[3]. Both ancient and modern works that I refer to frequently are given in the notes by the name of the author only, sometimes in abbreviated form, as indicated below, in the footnote[4].

CLOUDS

Of the countless popular weather signs no signs are more widespread or more generally dependable than those derived from clouds. Existing everywhere and in manifold forms and hues, clouds feel and reflect the moods of Nature. They are gentle when Nature is gentle, and lowering and menacing when Nature is roused to anger. The savage who could not read the heavens would indeed be dull-witted. If we ourselves observe the clouds less than our ancestors did, it is only because of our indoor life and of the fact that the telegraph has enabled meteorologists to read conditions farther than the eye can see.

The ancients judged impending weather by the density, the size, and the general appearance of clouds[5]. Lucretius[6] notes that in the spring the clouds are less dense. In winter light clouds are a sign of fine weather[7].

> . . . Again, if during a storm from the north there is a white gleam from that quarter, while in the south a solid mass of cloud has formed, it generally signifies a change to fair weather. Again when the north wind (Boreas) as it begins to blow violently stirs up a number of clouds, it indicates fair weather[8].

After rain bronze-colored clouds toward sunset generally mean that the next day will be clear[9]. "Fair weather, too, shalt thou have, when by the sea-verge is seen a cloud low on the ground, never reaching a height, but penned there like a flat reef of rock"[10]. Clouds hanging low over the sea indicate that the storm will cease[11]. Vergil[12] says that, when the clouds hang low and rest upon the fields, in vain will the watchful owl observing the sunset utter his ominous hoots.

"When there is mist, little or no rain follows"[13]. "Mist is what is left over when a cloud condenses into

[1] The Classical Astral Weather Chart for Rustics and Seamen, 20.43–49, 51–54; Greek and Roman Weather Lore of the Sun and the Moon, 22.25–31, 33–37. Other studies in weather lore by the author to be found in THE CLASSICAL WEEKLY are An Animal Weather Bureau, 14.89–93, 97–100; The Folk Calendar of Times and Seasons, 16.3–7; The Plant Almanac and Weather Bureau, 17.105–108; Magic and the Weather in Classical Antiquity, 18.154–157, 163–166.

[2] See THE CLASSICAL WEEKLY 22.25–31, 33–37.

[3] Both translations are in The Loeb Classical Library.

[4] Aratus = Aratus, Phaenomena; Aristotle = Aristotle, Meteorologica; Pliny = Pliny, Naturalis Historia; Seneca = Seneca, Naturales Quaestiones; Th. = Theophrastus, De Signis.

Modern works, cited only by authors' names, are as follows: Fanny D. Bergen, Current Superstitions (Volume 4 of Memoirs of the American Folk-Lore Society); H. H. C. Dunwoody, Weather Proverbs (United States of America: War Department, Signal Service Notes, No. 9, Washington, 1883); Edward B. Garriott, Weather Folk-Lore and Local Weather Signs (United States Department of Agriculture, Weather Bureau, Washington, 1903); Wm. J. Humphreys, Weather Proverbs and Paradoxes (Baltimore, Williams and Wilkins Co., 1923); Richard Inwards, Weather Lore: A Collection of Proverbs, Sayings, and Rules Concerning the Weather[3] (London, Elliot Stock, 1898); Lean = Lean's Collectanea: Collection, by Vincent Stuckey Lean, of Proverbs (English and Foreign), Folk Lore, and Superstitions, also Compilations towards Dictionaries of Proverbial Phrases and Words, Old and Disused, 5 volumes in 4 (London, J. W. Arrowsmith, 1902–1904); T. M. Longstreth, Reading the Weather (New York, The Macmillan Company, 1925); D. E. Marvin, Curiosities in Proverbs (New York, G. P. Putnam's Sons, 1916); O. Freiherr v. Reinsberg-Düringsfeld, Das Wetter im Sprichwort (Leipzig, Hermann Fries, 1864); C. Swainson, A Handbook of Weather Folk-Lore (Edinburgh and London, Wm. Blackwood and Sons, 1873); Edward Vernon, Is It Going to Rain?[3] (Edinburgh, Macniven and Wallace, 1903).

[5] Vegetius, De Re Militari 4.39, 41. [6] 6.361.

[7] Th. 51. Compare Vergil, Georgics 1.397: tenuia nec lanae per caelum vellera ferri.

[8] Th. 53. [9] Th. 51. [10] Aratus 991–993.

[11] Geoponica 1.2.4. Compare Aratus 858–861.

[12] Georgics 1.401–403. [13] Th. 52.

water and is therefore rather a sign of fine weather than of rain; for mist might be called a barren cloud"[14].

Though clouds may reveal many moods of the heavens, it is natural that they should be mentioned most frequently as portending welcome rains[15] or menacing storms[16]. Sometimes

> Gray monsters of the mist that ride
> Across the ambient sky
> Are nothing more than ambuscades
> Where passing showers lie[17],

but sometimes they are more threatening and warn the farmer to protect his crops and cattle or bid the mariner run to shelter[18]. Orphic Hymn *21* describes the cloud as 'crop-nourishing, heaven-crashing, rain-begetting, coursing through the world with winds, thundering, fiery'. It continues: 'I beseech thee now, dew-clad, flowing with breezes, to send crop-producing rains upon mother Earth'.

Fleece-like clouds herald the advent of rain[19]. Theophrastus regards them as portending storm when they appear at sunrise[20]. An additional item is recorded by Pliny[21]: if they are scattered about in the east in great numbers they prophesy rain for the third day.

"If the clouds are of uniform colour, like a white membrane, it is a sign of storm"[22]. "Foul weather, too, will come, when of the clouds some are stationary, but others passing by and others following after"[23]. "If during fine weather a cloud appears in the sky stretching a long way and torn to shreds, stormy weather will continue"[24]. Likewise, "when the clear light from the stars is dimmed, though no thronging clouds veil, nor other darkness hide nor Moon obscure, but the stars on a sudden causelessly wax wan, hold that no more for sign of calm but look for storm"[25].

Plutarch describes as 'showering' the clouds known as Ploiades and quotes Theophrastus as saying that they are neither very watery nor very windy[26].

In summer light clouds signify wind[27]. When clouds are carried through the heavens in clear weather, expect winds from the direction in which this occurs. If clouds gathered in the same place are scattered as the sun approaches, expect winds if this takes place toward the north, if toward the south, rains[28]. "Also the winds which accompany the falling of the mists are significant: if the breezes come from the east or south, rain is indicated; if from the west or north, breezes and cold weather"[29].

Stars too are meaningful in connection with mists, for, "if the Ass to the North of the Manger shine feebly through a faint mist, while the Southern Ass is gleaming bright, expect wind from the South; but if in turn the Southern Ass is cloudy and the Northern bright, watch for the North wind"[30].

Again, we are told[31] that

> the dawn is chill when Boreas has once made his onslaught, and at dawn a fruitful mist is spread over the earth from starry heaven upon the fields of blessed men: it is drawn from the ever flowing rivers and is raised high above the earth by windstorm, and sometimes it turns to rain towards evening, and sometimes to wind when Thracian Boreas huddles the clouds.

The story was current in antiquity that in certain seasons of the year the clouds over Scythia were so thick and gross that neither thunder nor lightning occurred[32].

Xenophanes saw in the sea the fountain-head of clouds and winds and rivers[33]. "If the land looks black from the sea, it indicates a north wind, if white, a south wind"[34]. The Greeks had a proverb which runs as follows: "Never fear the cloud from the mainland as much as one from the sea in winter, but in summer fear the cloud from the dark mainland"[35]. Elijah regarded as very significant the appearance of a cloud at sea[36]:

> And (he) said to his servant, Go up now, look toward the sea. And he went up, and looked, and said, There is nothing. And he said, Go again seven times.
> And it came to pass at the seventh time, that he said, Behold, there ariseth a little cloud out of the sea, like a man's hand. And he said, Go up, say unto Ahab, Prepare thy chariot, and get thee down, that the rain stop thee not.

Accepting the conclusions of an earlier scholar[37] a recent book states that "The ram...was the rain-cloud which sailed away eastward in summer and winter, but at the spring and autumn equinoxes, when the so-called *Hellespontias* blows, came back as the life-giving ram"[38]. With this compare a modern folk-saying current when thick clouds portend rain: "Here comes John Black and Gilbert Ram on his back"[39].

Long-range forecasts were sometimes made from the condition of the atmosphere.

> ...if after the spring equinox mists come down, it is an indication of breezes and winds by the seventh month, reckoning inclusively. Those mists which come down when the moon is in its first quarter indicate breezes

[14]Aristotle 1.9, 346 b (all translations of parts of this work are from E. W. Webster's translation).
[15]Alciphron, Epistulae 3.35, tells how peasants longed for the sight of a cloud during a drought.
[16]For example, Vergil, Aeneid 5.10–11: Olli caeruleus supra caput adstitit imber noctem hiememque ferens, et inhorruit unda tenebris. See also Tacitus, Agricola 12.3; Ammianus Marcellinus 20.11.25. Compare Quintus Smyrnaeus 2.194–195, 4.349–352.
[17]Don C. Seitz, Cloud Shapes, The Outlook, May 25, 1927, page 130.
[18]Aratus 413–419.
[19]Aratus 938–939. See also Vergil, Georgics 1.397; Varro Atacinus, as quoted by Servius on Vergil, Georgics 1.397; Lydus, De Ostentis 9 d (page 27 of C. Wachsmuth's edition, Leipzig, Teubner, 1897). In the neighborhood of Pisa people say: Cielo a pecorelle, Acqua a catinelle (this is quoted from Swainson, 201).
[20]Th. 13. [21]18.356. [22]Th. 45.
[23]Aratus 1018–1020. See also Th. 45. In modern lore small clouds scudding before larger clouds are sometimes called 'water carts'.
[24]Th. 43. [25]Aratus 1013–1018. [26]Greek Questions 7 (Moralia 292 C).
[27]Th. 31. Hort makes the suggestion, with a question mark after it, that the Greek word *kelades* may denote our 'mackerel sky'.
[28]Pliny 18.355. See also 2.129: Expectantur <venti> autem maxime unde nubes discussae adperuere caelum.
[29]Th. 57.
[30]Aratus 905–908. [31]Hesiod, Works and Days 547–553.
[32]Diodorus 3.34.2.
[33]H. Diels, Die Fragmente der Vorsokratiker[3], I, 63, No. 30 (Berlin, Weidmann, 1912).
[34]Th. 31. [35]Th., De Ventis 10.60. See Aristotle, Problemata 26.57.
[36]I Kings 18.43–44.
[37]P. W. Forchhammer, Die Sage vom Goldenen Vliesz, Jahrbücher für Philologie 1875, 391–398. See, however, John A. Scott, The Origin of the Myth of the Golden Fleece, The Classical Journal 22.541.
[38]J. R. Bacon, The Voyage of the Argonauts, 46–47 (London, Methuen and Co., 1925). [39]Lean, 1.404.

for that period, those which come down when the moon is in its third quarter indicate rain. And the more mists come down when the moon is assuming either shape, the more certainly is the result just mentioned indicated[40].

There are also weather signs to be drawn from the wind in certain associations with the sun and the moon. These I have gathered together in THE CLASSICAL WEEKLY 22.29, 33–36.

In his Historia Ventorum Francis Bacon gives a number of general signs, most of which are derived from classical sources[41].

The formation of rain-clouds is thus explained by Lucretius[42]:

Clouds are formed, when in this upper space of heaven many bodies flying about have in some one instant met together, of a rougher sort, such as are able, though they have got the very slightest holds of each other, to catch together and be held in union. These bodies first cause small clouds to form; and these next catch together and collect into masses and increase by joining with each other and are carried on by the winds continually until a fierce storm has gathered.

In the classical lands "the flail of the lashing hail" was and still is a terrible menace[43]. Consequently, people studied the clouds in an effort to identify those which portended hail and tried to avert them by magical means. The glowing of a heavy cloud was supposed to threaten hail, a 'white storm', as it was called[44]. Seneca[45], however, poked fun at the Stoics for believing that there were persons so skilled in observing the clouds that they could tell from the color which clouds portended hail.

The people of Cleonae appointed hail-guards or wardens whose duty it was to give warning of the approach of hail clouds and to try to turn them aside by sacrificing fowls[46]. Another way to avert hail clouds was to burn chaff and sweepings in the garden[47]. Still other methods of warding them off have been noted in previous papers in THE CLASSICAL WEEKLY[48]. At the present time the Italian peasants often rely on processions in which an image of the Madonna is carried through the streets[49].

Since the weather has a close connection with the success or the failure of military operations, Vegetius takes space in his De Re Militari (4.38–41) to list what he considers the more dependable signs. As already noted, he says (4.41) that clouds furnish information both by their appearance and by their size, but he does not enlarge upon the signs derived from them, obviously because the subject had been treated and the data were readily accessible[50].

It is instructive to note that a soldier of modern times, General Viscount Wolseley, urged army officers to become weatherwise by a constant study of the heavens. In The Soldier's Pocket-Book for Field Service[51] he gives the following maxims based upon clouds:

....whether clear or cloudy, a rosy sky at sunset presages fine weather; a red sky in the morning, bad weather or much wind (perhaps rain); a grey sky in the morning, fine weather; a high dawn, wind; a low dawn, fair weather. Soft-looking or delicate clouds foretell fine weather, with moderate or light breezes; hard edged oily-looking clouds, wind. A dark, gloomy blue sky is windy; but a light, bright blue sky indicates fine weather. Generally, the softer the clouds look, the less wind (but perhaps more rain) may be expected; and the harder, more "greasy", rolled, tufted or ragged, the stronger the coming wind will prove. Also a bright yellow sky at sunset presages wind; a pale yellow, wet; and thus by the prevalence of red, yellow, or grey tints, the coming weather may be foretold very nearly; indeed, if aided by instruments, almost exactly. Small inky-looking clouds foretell rain; light scud-clouds driving across heavy masses show wind and rain; but, if alone, may indicate wind only. High upper clouds crossing the sun, moon or stars, in a direction different from that of the lower clouds, or the wind then felt below, foretell a change of wind.

In this connection it is worth while to quote a paragraph of more recent date in which technical names of clouds are given[52]:

The cirrus presages good weather, but if it has a complicated or rapid movement announces a storm. A veil of cirro-stratus extending like a broad sheet in a direction different from that of the wind means a lowering of the barometer. If a halo at such times coincides with the direction of the wind and the lowering of the barometer, a period of cold weather is assured; but if, on the other hand, the barometer is stationary, rain alone will follow the appearance of the halo. The cumulus resembling cotton-bales means good weather, but sometimes when the base has a bag-like appearance rain may be looked forward to. The cumulo-nimbus brings hail, and the nimbus persistent rain or snow. If the heavens appear light, and especially blue, around the latter and the barometer is low a return of good weather is in sight.

CLOUDS HANGING OVER MOUNTAINS

Throughout the centuries the presence of a cloud upon a peak or mountain top has been a picturesque weather sign. In many lands this sign is still regarded as infallible. Perhaps there is no country so small as Greece which has so many mountainous weather prophets. "Every traveller in Greece will have noticed how the clouds swiftly gather round the highest mountain-top in the neighbourhood. In a short time the sky is covered with clouds, the roar of the thunder is

[40]Th. 56.

[41]The Works of Francis Bacon, Collected and Edited by J. Spedding, R. L. Ellis, and D. D. Heath, 9.449–450, 454–455 (Cambridge, Massachusetts, Riverside Press, 1869).

[42]6.451–458 (H. A. J. Munro's translation).

[43]See Sir Archibald Geikie, The Love of Nature among the Romans, 247–248 (London, John Murray, 1912). For ancient references see, for example, Th., Historia Plantarum 4.14.1; Horace, Carmina 3.1.29, Epistles 1.8.4; Pliny 18.278. The frequency with which ancient and modern Italians have resorted to magic in order to avert the hail-cloud is eloquent testimony to the threat it contained.

[44]Pliny 18.356. Compare the expression 'white calm', as used by Pierre Loti, Pêcheur d'Islande, Part I, Chapter VI, ad initium: "....il fait cette sorte de temps rare que les matelots appellent le *calme blanc;* c'est-a-dire que rien ne bougeait dans l'air, comme is toutes les brises étaient épuissees, finies".

[45]4.6.1. [46]Seneca 4.6–7. [47]Palladius 1.35.1.

[48]16.6; 18.155, 163. Diodorus says (5.55.3) that the Telchines at Rhodes could cause clouds and other kinds of weather.

[49]Tony Cyriax, Among Italian Peasants, 120, 42 (New York, E. P. Dutton and Co., 1919. See THE CLASSICAL WEEKLY 19.229–230).

[50]See 4.40: Sed omnia enumerare nominatim aut ineptum videatur aut longum, cum auctores plurimi non solum mensum sed etiam dierum rationem diligenter expresserint.

[51]Fifth edition, Revised and Enlarged, 285 (London, Macmillan, 1886).

[52]Clouds as Weather Prophets, Harper's Weekly, December 16, 1911, Part I, (55.35).

heard, and the rain pours down"[53]. This is an old story, since Cornutus[54] long ago said that everywhere rains were observed coming from the mountains. Theophrastus[55] remarked that, in general, places near mountains were observed to be either windy or rainy. He discusses[56] in great detail the significance of clouds resting upon mountains:

Of the remaining signs some belong specially to all such lands as contain high mountains and valleys, specially where such mountains extend down to the sea: for, when the winds begin to blow, the clouds are thrown against such places, and, when the winds change, the clouds also change and take a contrary direction, and, as they become laden with moisture, they settle down in the hollows because of their weight[57]. Wherefore good heed must be taken to the local conditions of the region in which one is placed. It is indeed always possible to find such an observer, and the signs learnt from such persons are most trustworthy.

Another extended discussion is to be found in an astronomical codex[58]:

'The clouds that float in airy form and show clear the tops of mountains indicate good weather, and appearing low upon the sea portend a cessation of storm; if resting upon the mountain tops, they are raised to the tops in a ring, as it were, from there will come the wind. If the heights of the mountains are clear and if the clouds approach their breasts, they show impending wind. Early morning mist falling on the ground and upon the plains signifies clearness, but on rising heavenward, it becomes a cloud and holds continual rains and winds. If the mist thickens, it portends a north wind; if it is watery or dewy, a southeast or a south wind. If the mist dissolves by the third hour, it signifies clear weather; if it lasts longer, it is the sea that will have clear air, good weather and a west wind.

If a cloud stands upright on a mountain-peak, it indicates storm; whence Archilochus's lines, "Mark you, Glaucus; deep ocean is now stirred up with waves, and about the heights of the Gyrae there rises a cloud erect, the sign of storm"[59].

From whatever quarter cloud streams out from a mountain-peak, wind will blow in the direction thus indicated. Clouds which cling to the back of the mountain will also produce wind from the back of it'[60].

"It is a sign of fine weather when Olympus Athos and in general the mountains which give signs have their tops clear: so too is it, when clouds encompass them at sea-level"[61]. When mists descend from the mountains and settle in the valleys, fine weather is likewise promised[62].

It was believed that clear mountain peaks presaged wind[63]. It was thought, however, that on exceedingly high mountains there was no wind at all. Athos was included in this class since sacrificial offerings were found there undisturbed a year after they had been made[64].

"If there is a girdle of cloud half-way up Mount Athos, and if mountains in general wear such a girdle, there will generally follow a southerly wind"[65]. "When Euboea has a girdle about it up to the waist, there will be rain in a short space"[66].

"It is a sign of storm when Athos Olympus and mountain-peaks in general are covered with clouds"[67]. A cloud settling on the temple of Zeus Hellenius, which was situated upon an eminence in Aegina[68], portended rain[69].

An excellent figurative use of the menace of a cloud upon a mountain is put into the mouth of Hannibal. It is said that he uttered the following pleasantry when he was withdrawing from the contest with the dictator Minucius, who had been saved from destruction only by the timely intervention of Fabius: "Verily, did I not often prophesy to you that the cloud which we saw hovering upon the heights would one day burst upon us in a drenching and furious storm?"[70]

There are several mountains whose weather indications are given in greater detail by Theophrastus:

"When at night a long stretch of white cloud encompasses Hymettus below the peaks, there will generally be rain in a few days"[71]. "If the lesser Hymettus, which is called the Dry Hill, has cloud in its hollows, it is a sign of rain: so also is it, if the greater Hymettus has clouds in summer on the top and on the sides: or if the Dry Hymettus has white clouds on the top and on the sides; also if the south-west wind blows at the equinox"[72]. "Again, if during a storm a long cloud stretches over Hymettus, it signifies that the storm will increase in force"[73].

"If cloud clings about Mount Pelion, it is an indication of rain or wind from the quarter to which it clings"[74].

If at the setting of the Pleiad there is lightning over Parnes Brilessus and Hymettus—when it appears over all three mountains, it indicates a great storm; when over the two lesser heights, a less violent storm; when over Parnes alone, fine weather[75]. "If the western side of Parnes and the side towards Phyle are blocked with clouds during a north wind, it is a sign of storm"[76].

In a Latin poem it is said that, however clear the day may dawn, there always hovers above Etna a sluggish black cloud. Though a breeze may drive it away for a time, it always returns[77].

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[53]M. P. Nilsson, A History of Greek Religion, 113 (Oxford: At the Clarendon Press, 1925).
[54]Theologiae Graecae Compendium, Chapter 6.
[55]De Ventis 1.5. [56]De Signis 3.
[57]The ancients understood, of course, that mountains too high to be surmounted by clouds caused the clouds to drop their moisture in the form of rain. See Th., De Ventis 1.5, 4.27; Aristotle, Problemata 26.7, 56. Compare, also, note 107, below.
[58]Catalogus Codicum Astrologorum Graecorum 4. 110 (Bruxellis, In Aedibus Henrici Lamertin, 1903).
[59]Th. 45 (quoted also by Plutarch, De Superstitione 8 [= Moralia 169 B]); Heraclides, Allegoriae Homericae 4.
[60]Th. 34. The first of these two signs is given by Aratus 920.
[61]Th. 51. See also Aratus 988–990; Pliny 18.356; Geoponica 1.2.4.
[62]Pliny 18.357; Vergil, Georgics 1.401.
[63]Geoponica 1.11.7. [64]Aristotle, Problemata 26.36. [65]Th. 34.
[66]Th. 22. Hort comments as follows: "Evidently an Attic saying, of days when only the upper part of the Euboean mountains was visible".
[67]Th. 43. See also Pliny 18.356.
[68]Upon Mount Panhellenius. See Frazer's note on Pausanias 2.30.4.
[69]Th. 24. [70]Plutarch, Fabius 12.4 (Perrin's translation, in The Loeb Classical Library). See also Livy 22.30.10.
[71]Th. 24. [72]Th. 20. [73]Th. 43. [74]Th. 22.
[75]Th. 43. [76]Th. 47. [77]Aetna 33 -337.

Among the Greeks, peaks and mountain-tops were favorite places for invoking winds or rain[78]. Upon Mount Parnes and Mount Hymettus there were altars on which sacrifices were offered to showery Zeus[79]. Aeacus ascended Mount Hellenius in order to pray to Zeus to end a drought. Amid his praying there was a loud clap of thunder, the heavens became clouded, and a heavy rainfall ensued[80]. It is said that, out of gratitude for this answer to his prayer, Aeacus built a sanctuary of Zeus on Mount Panhellenius in Aegina[81]. Upon mountain-tops priests of Aristaeus assuaged the power of the stern dog-star and entreated Zeus to send wind by which quail are entangled in meshes[82]. Mount Pelion was the site of a sanctuary to which, when the heat of the dog-star was fiercest, there ascended very distinguished citizens and the young men in the vigor of youth, clad only in the skins of newly flayed sheep[83]. During a drought sacrifices were made upon the altars of Zeus and Hera on Mount Arachnaeon, above Lessa[84]. There was an altar to Lightning Zeus on Harma, to the northwest of Athens[85].

Commenting on Pausanias 1.32.2, Frazer says: "There was a propriety in worshipping Showery Zeus on Hymettus since clouds resting on Hymettus were signs of rain". Frazer suggests that a spot on the ridge of Mount Tmolus near Sardis may have been called the Birthplace of Zeus because clouds resting upon it were regarded as presaging rain[86]. It would be folly, however, to try to explain all ceremonies on heights as due to some weather association. There were too many such ceremonies[87].

Much picturesque weather lore has gathered about the islands off the northeastern corner of Sicily. Polybius (34.11.12–20) preserves for us the weather associations of the craters in the volcanic Holy Island, one of the Lipari group:

Of the three craters one has partly fallen in, the other two remain perfect. The largest has a circular orifice with a circumference of five stades, but it gradually contracts to a diameter of fifty feet; it runs right down to the sea for a stade, so that the sea is visible in clear weather. When a south wind is about to blow, a thick mist envelopes the little island, so that even Sicily is invisible from it: but if there is going to be a north wind, bright flames rise from the crater and shoot up high, and louder rumblings are emitted; but a west wind causes a medium display of both. The other two craters are of the same shape, but their eruptions are less violent. From the difference in the sound of the rumbling, and by observing from what point the eruptions and flames and smoke begin, the wind which is to blow on the third day from that time can be foretold. At least, some men in the Lipari Islands when weather-bound have foretold what wind was coming and have not been deceived[88–89].

Pliny (3.94) also tells us that the smoke of Stromboli, now picturesquely called the 'lighthouse of the Mediterranean', enabled people to tell three days in advance what winds were going to blow. He adds that, since the home of Aeolus was in this region, the notion arose that the winds were governed by him. According to Diodorus (5.7.7) Aeolus was a petty king who, through ability to read, in fire, signs of the coming winds, came to be regarded as the ruler of the winds.

Apparently Stromboli has never ceased to be a weather guide, for it still serves such a purpose[90]:

It appears...from the concurrent relation of the islanders, to be influenced by atmospheric changes, as storms, particularly those from the southward, are preceded by thick volumes of smoke, so that the native pilots are guided at night by its flame, and gain intimations of the weather in the day-time by its smoke.

Another account runs as follows[91]:

The inhabitants of Stromboli, who are mostly fishermen, are said to make use of that volcano as a weather-glass, the eruptions being comparatively feeble when the sky is serene, but increasing in turbulence during tempestuous weather, so that in winter the island often seems to shake from its foundations.

During my stay in Italy I bought a copy of the Guida Popolare a Monte Cavo e Rocca di Papa[92], which is merely a vest pocket pamphlet. One paragraph (17) runs as follows:

'The ancient peoples of Latium had carefully observed that all the atmospheric changes of the weather, that is, the winds, the rains, etc., always started from the summit of Monte Cavo. And from there bad weather spread around over all the region of Latium. They decided then to build on the summit of the same Mount Albano a temple to the god Jupiter Optimus Maximus, with the idea that he, appeased by the prescribed sacrifices, might send blasts of healthful and propitious air over the entire region[93]. Also today it happens time after time—and it is a fact observed by all—that, if the summit of Monte Cavo is

[78]M. P. Nilsson, A History of Greek Religion, 90 (Oxford: At the Clarendon Press, 1925).

[79]Pausanias 1.32.2.

[80]Clemens Alexandrinus, Stromata 6.3.28. See also Pausanias 1.44.9, 2.29.7–8; Isocrates, Evagoras 14–15; Diodorus Siculus 4.61.1–2; Scholiast on Pindar, Nemea 5.9 (17); Apollodorus 3.12.6; Eudocia Augusta, Violarium 13.

[81]Pausanias 2.30.4.

[82]Callimachus, Aitia 3.1.33–37 (page 209 of A. W. Mair's translation, in The Loeb Classical Library).

[83]Dicaearchus 2.8 (Geographi Graeci Minores, 1.107, C. Müller's edition [Paris, Didot, 1872]).

[84]Pausanias 2.25.10.

[85]See THE CLASSICAL WEEKLY 20.155.

[86]Frazer, The Magic Art, 2.360 (London, Macmillan, 1917). Lydus, De Mensibus 4.71, records the information upon which Frazer is commenting.

[87]See The Mountain-Cults of Zeus, in A. B. Cook, Zeus, 2, Part II, 828–987; Margaret B. O'Connor, Religion in the Plays of Sophocles, 51 (The Collegiate Press, Menasha, Wisconsin, 1923. See THE CLASSICAL WEEKLY 20.66). Of some collateral interest in connection with this section of my paper is W. Capelle, Berges- und Wolkenhöhen bei Griechischen Physikern (Leipzig, Teubner, 1916). This is Heft V of ΣΤΟΙΧΕΙΑ: Studien zur Geschichte des Antiken Weltbildes und der Griechischen Wissenschaft.

[88]E. S. Shuckburgh's translation.

[89]The same story is told in Strabo 6.2.10. See also 1.2.15. Compare Aristotle 2.8, 367 a: "When a south wind is going to blow <in the Aeolian islands> there is a premonitory indication: a sound is heard in the places from which the eruptions issue".

[90]W. H. Smyth, Memoir Descriptive of the Resources, Inhabitants, and Hydrography, of Sicily and Its Islands, 256 (London, John Murray, 1874).

[91]Sir Charles Lyell, Principles of Geology[11], 2.472 (New York, D. Appleton and Co., 1876). Compare Smyth, page 270 of the volume named in note 90: "From the strength of the concussions, and the violence of these gusts, the Liparians pretend to foretell the changes of weather about to occur". The same author says (149) that the first autumnal rains on Etna "assume the form of snow on the summit; and the peasants below attentively observe whether the east or west side is covered earliest, because, in the former case, they expect a wet season, in the latter, a dry one".

[92]Tipografia Eredi Cav. A Befani, Rome, 1910. The pamphlet is very unpretentious. I value it only for its weather lore.

[93]I have tried without success to find this idea in a Latin writer.

cloudy or foggy, the weather will be bad: if it is clear and cloudless above without the smallest cloud, the weather will be good for all Latium'.

To the same source (18) I am indebted for the following rimes:

Se Monte Cavo mette il cappello,
Lascia il bastone e prendi l'ombrello[94].

Quando fuma Giove,
Certamente piove[95].

Mountain tops are regarded as weather indexes the world around. I shall quote a few examples in order to show the various ways of describing the clouds resting upon the tops:

Quand Pilate a mis son chapeau,
Le temps sera serein et beau[96].

When Falkland Hill puts on his cap,
The Howe o' Fife will get a drap;
And when the Bishop draws his cowl,
Look out for wind and weather foul[97].

When Bredon Hill puts on his hat,
Ye men of the vale beware of that[98].

If Riving Pike do wear a hood,
Be sure the day will ne'er be good[99].

Benrinnes bonnetted may pass,
Benaigen bonnetted never pass[100].

When Criffel wears a hap,
Skiddaw wots full well o' that[101].

There is a high wooded hill above Lochnaw Castle,
Take care when Lady Craighill puts on her mantle:
The Lady looks high and knows what is coming,
Delay not one moment to get under covering[102].

At Capetown the sailors say, in reference to the cloud covering Table Mountain, "When the table cloth begins to spread, clear cables and prepare either to ride out the gale, or get out to sea"[103].

A striking name is "Rainmaker", which designates a mountain in Samoa. It seems to be the only weather bureau necessary[104]:

Nature has supplied an unfailing weather guide to Pago Pago. Across the bay from the town is a flat-topped mountain, higher than the hills beside it. This is the "Rainmaker". Clouds may come up behind the other mountains that surround the bay and drift away again, but any time one comes up behind the Rainmaker and bumps against its sides, then it rains.

One of our own mountains gives very definite information of the advent of rain: "When Lookout Mountain has its cap on, it will rain in six hours"[105]. Mount Baldy and Mount Diablo in California have weather associations. The names Rainy Butte, East Rainy Butte, and West Rainy Butte, mountains of North Dakota, seem to speak for themselves.

Mountain-tops and peaks are among the dependable weather indexes[106]. The reason for this has been well stated in simple language[107]:

It will be readily understood that when a current of air, always laden with vapour, is driven by the wind against the side of a hill, it is at once deflected upwards. If the weather is fine and to remain fine, the barometric pressure being high, there is no condensation of the ascending vapour, and therefore no cloud. Accordingly when the hill loses its cap, we know that the weather is improving. On the other hand, if there is an approaching low pressure caused by a coming cyclone, the vapour-laden air as it is deflected upwards is cooled below the dew point, and condensation immediately following, cloud is formed. The hill-top puts on its cap, and this is frequently the first indication we have that a change to rainy weather is coming.

MODERN LITERATURE ON WEATHER LORE OF CLOUDS

There is so much modern weather lore of clouds that I have not attempted to give many parallels. The reader who is even superficially familiar with it may perhaps be grateful to me for not dwelling on the oft-mentioned mackerel skies and mares'-tails. I am listing, however, a number of valuable references to certain books, most of which are readily accessible: Bergen, 112–113; Dunwoody, 41–48, *et passim;* Garriott, 11–12; Inwards, 99–122; Lean, 1.403–404; Longstreth, 65–76; Marvin, 203–218; Reinsberg-Düringsfeld, 46–49; Swainson, 200–208; Watch the Clouds and Be Your Own Weatherman (with illustrations), The Detroit News, Metropolitan Section, September, 16, 1923, 14. Of special interest in connection with celestial weather lore in general is an article by W. P. Eaton, Weather and the Sky, Harper's Magazine 133.96–105. Many picturesque expressions are used in the section devoted to clouds in an article by Walter Gregor, Weather Folk-Lore of the Sea, 2 (1891), 468–482.

The more reliable cloud signs, together with explanations for their reliability, are given by Henry J. Cox, How to Predict To-morrow's Weather, The American Magazine, August, 1920, 26–28, 95–100, *passim;* Humphreys (with fine illustrations), 47–54; Longstreth, 65–76; Vernon, 26–32, 89–101; Robert DeC. Ward, Weather Proverbs: Good and Bad, Harvard Alumni Bulletin, February 19, 1925, 614–621, *passim.* E. B. Dunn, The Weather and Practical Methods of Forecasting It[108], states that "clouds are among the most reliable of the natural phenomena to be considered in calculating changes of the weather", and then gives three pages (270–272) of dependable indications.

[94]'If Monte Cavo dons his cap, leave your cane and take your umbrella'. [95]'When Jove smokes, He certainly soaks'. [96]Swainson, 208. [97]Swainson, 206. "Falkland Hill and Bishop Hill are two prominent conical eminences in the Lomond range": Swainson, 206. [98]Swainson, 205. The hill is in Worcestershire. [99]Swainson, 207. The hill is in Lancashire. [100]Vernon, 59. The hills overlook the Moray Firth. [101]Swainson, 206. The sign is thus interpreted in Dumfries and Kirkpatrick-Fleming. [102]Swainson, 205–206. [103]Vernon, 59. [104]From a newspaper clipping. [105]Inwards, 122.

[106]For other instances see Inwards, 117–122; Swainson, 204–208; Lean, 1.387–388; Vernon, 58–62; E. M. Wright, Rustic Speech and Folk-lore, 314 (Oxford University Press, 1913); Scott, The Pirate, Chapter 4. [107]Vernon, 60–61. See also Humphreys, 52; Longstreth, 73–74. The ancients understood, of course, why clouds striking mountains dropped their moisture: see note 57, above. In Arrian 6.25 it is explained that clouds driven against the mountains of Godrosia were unable to pass the summits and hence dissolved into rain. [108]269 (second edition, New York, Dodd, Mead and Co.: undated).

The following works contain beautiful illustrations of the various kinds of clouds, but no popular lore: C. J. P. Cave, Clouds and Weather Phenomena, for Artists and Other Lovers of Nature[109]; W. J. Humphreys, Fogs and Clouds[110]; McFall Kerbey, Toilers of the Sky, The National Geographic Magazine 38 (1925), 163–190. An anonymous article on Painting Clouds for Weather Forecasts appeared in Popular Mechanics 44. 803–804.

(To be concluded)

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PRICES OF REAL ESTATE, ANCIENT AND MODERN

When Lanciani's first book in English was published (Ancient Rome in the Light of Recent Discoveries, Boston and New York, Houghton Miflin and Company, 1889), I read it at once. One passage in particular has always lingered in my memory. It is to be found in the chapter entitled Public Places of Resort (74–105: see especially 83–84):

...So enormous was the sum of money which he <= Julius Caesar> spent in the year 702 to purchase the area for his new forum (an extension of the old one) that even the unimpressionable Pliny exclaims, *pyramides regum miramur, cum solum tantum foro exstruendo HS millies Caesar dictator emerit!* "We wonder at the Egyptian pyramids, when Caesar, as dictator, spent one hundred millions of sesterces merely for the ground on which to build his forum!" The sum of one hundred millions of sesterces, mentioned by Pliny and confirmed by Suetonius, corresponds to four million dollars; and as the area purchased by Caesar does not exceed ninety thousand square feet, it is evident he must have paid, on an average, $44.45 per <square> foot....

In The New York Sun, March 14, 1909, the following item appeared:

The largest real estate deal made in the financial district in several years was put through yesterday. The Fourth National Bank, which owns and occupies the northeast corner of Pine and Nassau streets, acquired from the Germania Life Insurance Company the adjoining building at the southeast corner of Cedar and Nassau streets and is now in control of the entire block front on the east side of Nassau street from Pine to Cedar street.

The Germania Life Insurance Company has been holding its property at $1,500,000, and it is understood that the actual price paid was close to that figure. The plot measures 73.1 feet on Nassau street and 73.2 feet on Cedar street. The average price per square foot was about $307. This figure has been surpassed by only three other sales of New York city real estate. Two small plots at the southwest corner and the southeast corner of Broad and Wall streets sold over thirty years ago at the rate of $330 and $348 a square foot respectively. The southeast corner of Broadway and Wall street brought $583 a square foot four years ago. This is the record price for real estate in New York city....

While I was away from my desk this summer, seeking change and rest, I read an article in The Saturday Evening Post, by Mr. Joseph P. Day, the well-known New York City auctioneer, in the course of which the statement was made that parcels of real estate in New York City have brought as much as $800 per square foot. I cannot give the exact reference, but I am sure that the article appeared in late August or early September.

CHARLES KNAPP

[109]Cambridge: At the University Press, 1926.
[110]Baltimore, The Williams and Wilkins Co., 1926.